GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –IIst SEMESTER–EXAMINATION – JULY- 2012

Subject code: 1721902 Date: 09/07/2012

Subject Name: Transportation Planning

Time: 10:30 am – 13:00 pm Total Marks: 70

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.
- Q.1 (a) What are the criteria for dividing study area in to zones for transportation planning? What of is trip? Explain significant factors in trip generation.
 - (b) Before specific decision can be made relating to layout and design of Transport facilities what are the questions (Issues) to be addressed by Transportation professionals?
- Q.2 (a) The present trip matrix, growth factor and future trip generation are given. Find trip 07 distribution Using average growth factor method carry out 3 iterations.

Items	Zone				
	1	2	3	4	
Future trips	300	1000	800	300	
Growth factor	3	4	2	1	

Present trip matrix:

i\ j	1	2	3	4
1		25	50	25
2	25		150	75
3	50	150		200
4	25	75	200	

(b) Explain 3-Levels of planning: Strategic Planning, Tactical Planning and Project Planning.

OR

(b) Explain Land use Transportation cycle with flow chart.

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- O.3 (a) Write note any two::
 - a. Generated traffic,
 - b. Derive equation for generated traffic
 - c. Explain generated traffic with gravity model
 - (b) A and B are residential zones. C ,D ,E are employment zones. The employment in zone C,E, D are 10,000 , 12,000, 15,000. The population density of zones are as

Zones	Population density / Km2
Α	25000
В	30000
С	10000
D	12000
E	15000

The travel time matrix among zones is given below. Travel time in minutes.

Origin\ Destination	С	D	E
Α	5	10	15
В	6	10	14

Function f (dij) = dij^{-b}, b = 1.00. Find accessibility AA, AB, RAA, RAB.

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Q.3 (a) Explain Transportation system management (TSM) planning process with a flow chart.

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	(b)	Write note: Critical Appraisal of Category Analysis Technique. Explain importance of following tests in regression modeling: (I) R – test (II) F –test (III) T – test						07		
Q.4	(a)		•	l formulations					07	
	(b)		Explain the matrix showing mutually – supportive (Compatibility) TSM technique arranged to suggest programme packages for solving urban transportation problems. OR							
Q.4	(a)	The numbe with L facto		luced in and a	_	e zones 1, 2, 3	3 are tabu	ılated below,	07	
		Zones	1	2	3	Total				
		Oi	14	33	28	75				
		Dj	33	28	14	75				
		Li 0.04 0.02 0.04								
		The order of closeness of zones is given in matrix i/j 1 2 3 1 1 2 3 2 1 1 3 2 1 1 3								
		3 2 1 2								
Q.4	(b)		trips among z : Intervening	cones g Opportunit	y Model.				07	
Q.5	(a)	Explain in cassignment		ity Restraint N	/lethod' OR "/	Multipath Assi	gnment" f	or traffic	07	
	(b)							07		

OR

Q.5	(a)	Explain Garin model. How this model different from Lowry models?			07
	(b)	Write note	(i) (ii)	Pivot point Analysis. Incremental Logit model.	07
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